

CLAIMS

What is claimed is:

- 50917
1. An endoluminal prosthesis comprising:
a proximal end, a distal end and a hollow tubular body having a central axis wherein the hollow tubular body comprises at least one segment of curvature, the segment being curved with respect to the central axis along the length of the prosthesis.
 2. The prosthesis of claim 1 wherein the body segment is curved in at least one plane with respect to the central axis of the body.
 3. The prosthesis of claim 1 wherein the body segment is curved in at least two planes with respect to the central axis of the body.
 4. The prosthesis of claim 1 wherein the stent body has at least two segments of curvature wherein the segments of curvature are located in successive progression along the body of the prosthesis and the segments are curved within the same plane of curvature.
 5. The prosthesis of claim 1 wherein the stent body has at least two segments of curvature wherein the segments of curvature are located in successive progression along the body of the prosthesis and the segments are curved within different planes of curvature.
 6. The prosthesis of claim 1 wherein the stent body has at least two segments of curvature wherein the segments of curvature overlap at least a portion of one another and the segments of curvature are curved within different planes of curvature.

7. The prosthesis of claim 1 comprising both segments of curvature which overlap and segments of curvature which do not overlap.
8. The prosthesis of claim 1 wherein the prosthesis comprises at least one segment of curvature to approximate an anatomical shape.
9. The prosthesis of claim 8 wherein the prosthesis approximates the anatomical shape of the anatomical site intended for placement of the prosthesis.
10. The prosthesis of claim 1 wherein the hollow tubular body comprises wire.
11. The prosthesis of claim 10 wherein the wire comprises a shape memory alloy.
12. The prosthesis of claim 10 wherein the wire comprises a super elastic alloy.
13. The prosthesis of claim 10 wherein the wire comprises a polymer.
14. The prosthesis of claim 10 wherein the wire is nitinol.
15. The prosthesis of claim 20 wherein the wire is undulating.
16. The prosthesis of claim 11 wherein the wire is uniformly displaced along the length of the body.
17. The prosthesis of claim 1 wherein the hollow tubular body comprises a thin-walled tube material wherein the center of the thin-walled tube provides the center of the prosthesis.
18. The prosthesis of claim 1 wherein the prosthesis further comprises at least one taper along the length of the body.

19. The prosthesis of claim 1 wherein the prosthesis further comprises at least one aperture on the body between the proximal end and the distal end.

20. The prosthesis of claim 1 wherein the prosthesis further comprises at least one non-circular cross-section along the length of the body.

21. The prosthesis of claim 1 wherein the prosthesis further comprises at least one branch of the prosthesis that extends away from the body of the prosthesis.

22. The prosthesis of claim 1 wherein at least a portion of the prosthesis is covered with a graft covering.

23. An endoluminal prosthesis comprising:
a proximal end, a distal end and a hollow tubular body having a central axis wherein the hollow tubular body is geometrically shaped and sized to approximate an anatomical shape.

24. The prosthesis of claim 23 wherein the prosthesis approximates the anatomical shape of the anatomical site intended for placement of the prosthesis.

25. The prosthesis of claim 23 wherein the prosthesis comprises at least one segment of curvature.

26. The prosthesis of claim 23 wherein the hollow tubular body comprises wire.

27. The prosthesis of claim 26 wherein the wire comprises a shape-memory alloy.

28. The prosthesis of claim 26 wherein the wire comprises a super elastic alloy.

29. The prosthesis of claim 26 wherein the wire comprises a polymer.

30. The prosthesis of claim 26 wherein the wire is nitinol.
31. The prosthesis of claim 26 wherein the wire is undulating.
32. The prosthesis of claim 26 wherein the wire is uniformly displaced along the length of the body.
33. The prosthesis of claim 23 wherein the hollow tubular body comprises a thin-walled tube material wherein the center of the thin-walled tube provides the center of the prosthesis.
34. The prosthesis of claim 23 wherein the prosthesis further comprises at least one taper along the length of the body.
35. The prosthesis of claim 23 wherein the prosthesis further comprises at least one aperture on the body between the proximal end and the distal end.
36. The prosthesis of claim 23 wherein the prosthesis further comprises at least one non-circular cross-section along the length of the body.
37. The prosthesis of claim 23 wherein the prosthesis further comprises at least one branch of the prosthesis that extends away from the body of the prosthesis.
38. A medical implant for placement in a body lumen comprising:
at least one segment of curvature wherein the segment is geometrically shaped to approximate an anatomical shape.
39. A method for fabricating an endoluminal prosthesis comprising the steps of:
providing a mandrel having a proximal end, a distal end and a body having a central axis wherein the body comprises at least one segment of

curvature, the segment being curved with respect to the axis of the mandrel;

providing a wire having a body and two ends;

Wrapping the wire in a helical manner around the body of the mandrel and securing the wire tightly around the mandrel;

Heat treating the wire and mandrel to set the wire in the shape of the mandrel; and

removing the wire from the mandrel and allowing the wire to assume the set shape of the mandrel.

40. A method for fabricating an endoluminal prosthesis comprising the steps of:
- providing a mandrel having a proximal end, a distal end and a body having a central axis wherein the body is geometrically shaped and sized to approximate an anatomical shape;
 - providing a wire having a body and two ends;
 - wrapping the wire in a helical manner around the body of the mandrel and securing the wire tightly around the mandrel;
 - heat treating the wire and mandrel to set the wire in the shape of the mandrel; and
 - removing the wire from the mandrel and allowing the wire to assume the set shape of the mandrel.